

BS 6465-2:2017



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Sanitary installations

Part 2: Space recommendations — Code of practice

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Foreword

Publishing information

This part of BS 6465 is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 31 July 2017. It was prepared by Technical Committee B/209, *General building codes*. A list of organizations represented on this committee can be obtained on request to its secretary.

Supersession

This part of BS 6465 supersedes BS 6465-2:1996, which is withdrawn.

Information about this document

BS 6465-2 is part of a suite of four British Standards relating to the design of sanitary installations. The other three British Standards in the suite are:

- a) BS 6465-1, *Sanitary installations – Part 1: Code of practice for the design of sanitary facilities and scales of provision of sanitary and associated appliances*;
- b) BS 6465-3, *Sanitary installations – Part 3: Code of practice for the selection, installation and maintenance of sanitary and associated appliances*; and
- c) BS 6465-4, *Sanitary installations – Part 4: Code of practice for the provision of public toilets*.

Use of this document

As a code of practice, this part of BS 6465 takes the form of guidance and recommendations. It should not be quoted as if it were a specification and particular care should be taken to ensure that claims of compliance are not misleading.

Any user claiming compliance with this part of BS 6465 is expected to be able to justify any course of action that deviates from its recommendations.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its recommendations are expressed in sentences in which the principal auxiliary verb is “should”.

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Where words have alternative spellings, the preferred spelling of the Shorter Oxford English Dictionary is used (e.g. “organization” rather than “organisation”).

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

1 Scope

This part of BS 6465 gives recommendations for the minimum space needed to install, use and maintain sanitary appliances in most types of building.

This British Standard gives recommendations for spaces for sanitary appliances, but, although it provides some examples of dimensions of rooms or cubicles, it does not generally give minimum dimensions of the rooms in which they are installed.

NOTE 1 This is in order to provide flexibility of design using the recommendations set out in this British Standard.

The recommendations in this British Standard do not cover the space needs for sanitary appliances used by all disabled people, which are covered in BS 8300¹ and BS 9266.

These recommendations in this British Standard do not cover the space needs for specialist catering, medical, laboratory or cultural appliances or practices.

NOTE 2 Attention is drawn to the applicable building and water regulations.

NOTE 3 [Annex A](#) gives the minimum space needed for example room layouts and [Annex B](#) gives information on circulation space depth.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 8300, *Design of buildings and their approaches to meet the needs of disabled people — Code of practice*

BS 8558, *Guide to the design, installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages — Complementary guidance to BS EN 806*

BS EN 806 (all parts), *Specifications for installations inside buildings conveying water for human consumption*

BS EN 12056-2, *Gravity drainage systems inside buildings — Part 2: Sanitary pipework, layout and calculation*

3 Terms and definitions

For the purposes of this part of BS 6465, the following terms and definitions apply.

3.1 accessible toilet

toilet that is capable of being accessed and used by disabled people

3.2 activity space

area needed, in addition to the appliance space, for the user to carry out the activity normally associated with the appliance and to enable cleaning and routine maintenance to be carried out

3.3 appliance space

area required for the sanitary appliance, and where applicable, any pipework ducting and fittings

¹ At the time of publication, BS 8300 was being prepared as BS 8300-1 and BS 8300-2.

3.4 circulation space

area free of obstructions required for access to an appliance without interference to users of other appliances

3.5 column of clearance

largest column of clear space that can be projected between any adjacent obstructions, such as a WC pan, door swing and wall

NOTE See 4.2 for access dimensions.

3.6 domestic situation

arrangement of sanitary appliances within a single household used by only one person at a time

NOTE Users are assumed not to be wearing outdoor clothing.

3.7 dwelling

permanent, self-contained accommodation, generally intended to be occupied by a single household

3.8 luggage zone

area allocated to the temporary storage of luggage within a WC cubicle

3.9 non-domestic situation

arrangements of sanitary appliances in public or commercial environments often used by more than one person simultaneously

NOTE Users may be wearing outdoor clothing and carrying items.

3.10 toilet

room containing one or more WCs

NOTE This may contain other sanitary appliances.

3.11 visitable toilet

toilet on the entrance level of a dwelling which provides reasonable space for most people to approach and use the facilities

3.12 water closet (WC) suite

pan and cistern

NOTE For the purposes of this British Standard, the term WC also covers a composting toilet or a squatting pan.

4 General planning of sanitary appliance layouts

4.1 General

Space should be provided for all of the following:

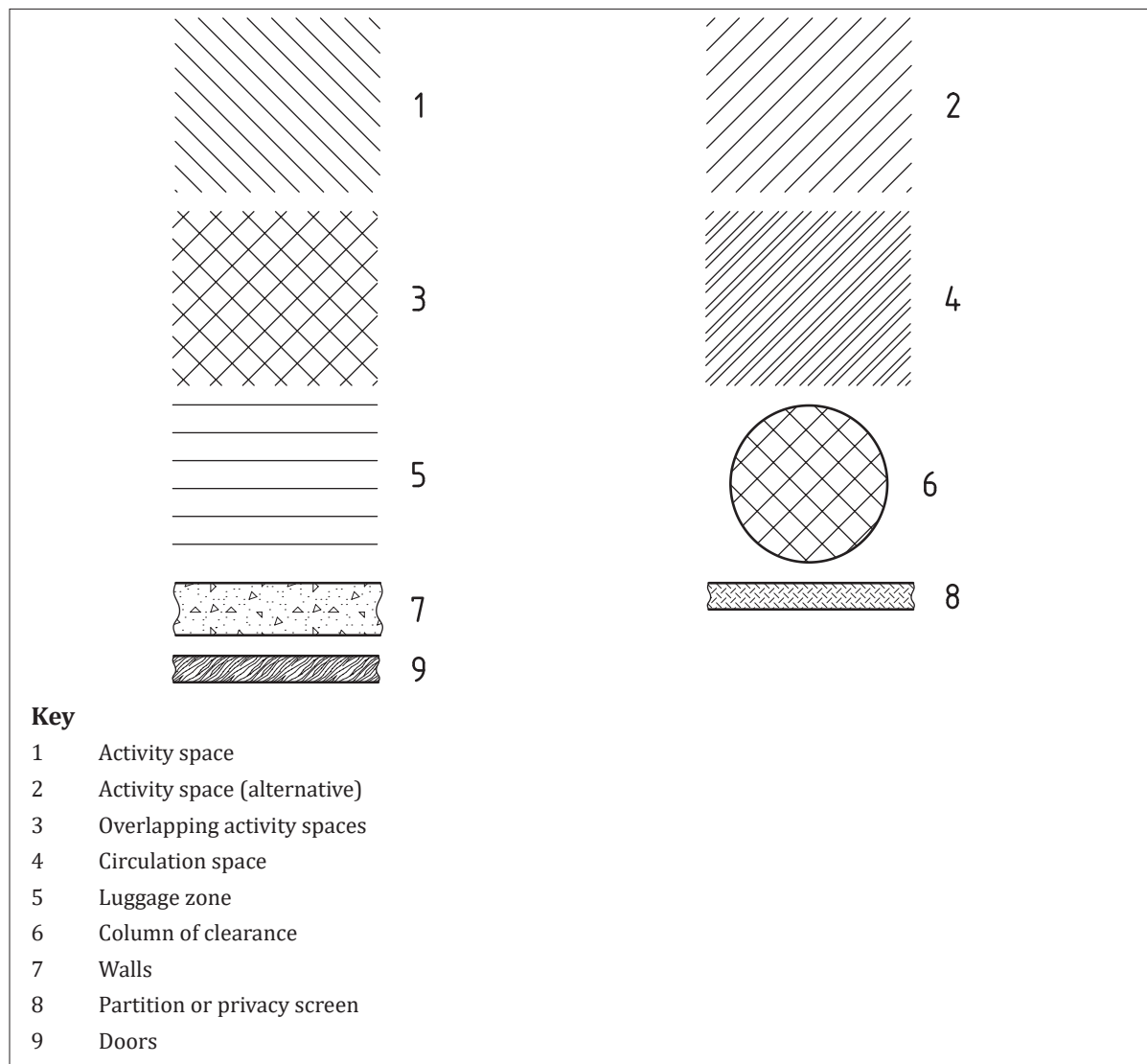
- a) people to be able to gain access to the room containing the sanitary appliance;
- b) people to be able to gain access to the sanitary appliance itself;
- c) the sanitary appliance and its service connections (referred to as the "appliance space" in this British Standard);
- d) people to use the sanitary appliance (referred to as the "activity space" in this British Standard);

- e) when more than one person at a time would be using the room containing the sanitary appliance, space to avoid obstructing others (referred to as "circulation space" in this British Standard); and
- f) maintenance and cleaning.

Minimum space arrangements should conform to [Annex A](#) for room layouts.

NOTE See [Figure 1](#) for the hatching convention used throughout this British Standard.

Figure 1 — Hatching and shading convention in this British Standard



4.2 Access

A clear route to the room containing the sanitary appliance should be provided.

Adequate space should be provided to access the appliance within the room in which it is situated, which is clear of the door swing and all fixtures and fittings.

NOTE 1 This can be achieved by providing space for a vertical column (the "column of clearance", which would be indicated as a circle on a layout plan).

A column of clearance should normally be a minimum 450 mm diameter.

NOTE 2 A column of clearance may be reduced to a minimum of 400 mm diameter in an environment where people are not normally wearing outdoor clothing or carrying baggage.

4.3 Appliance space

The appliance space should be the plan area of the appliance rounded up to the nearest 50 mm including allowance for any closely related pipework and fittings.

4.4 Activity space

Adequate space should be provided to allow the person to use the appliance comfortably.

4.5 Circulation space

Where a room containing a sanitary appliance is likely to be used by more than one person at a time, adequate circulation space should be provided in addition to the appliance and activity spaces.

Circulation space depth should conform with [Annex B](#).

4.6 Services

Layout of the sanitary appliances should allow for drainage conforming to BS EN 12056-2 and water supply conforming to BS EN 806 and BS 8558 as appropriate.

NOTE See BS 6465-3 for recommendations on installation.

4.7 Maintenance and cleaning space

As well as the space required for the pipework, etc., space should be provided for maintaining services, e.g. by ensuring that there is suitable access and working space around rodding access and valves, including disassembly and reassembly when required.

Where surfaces are not continuous, a minimum gap of 65 mm should be provided between appliances to facilitate cleaning.

5 Appliance, activity and circulation space sizes

5.1 Appliance space

Where the size of the appliance is not known, the dimensions given in [Table 1](#) should be used.

Table 1 — Nominal appliance spaces

Appliance	Plan dimensions (mm)
Bath	1 700 × 800
Shower	900 × 900
Wash basin (domestic)	600 × 500
Small wash basin (non-domestic)	500 × 400
Hand rinse basin	400 × 300

NOTE 1 Activity spaces are dimensioned as width × depth.

NOTE 2 All appliances can vary in size, in particular, baths, showers and wash basins.

^{A)} Dimensions include a traditional cistern of 500 mm width. Modern cisterns are generally 400 mm wide

^{B)} A paper towel bin is also needed.

^{C)} Bins within cubicles are generally less than 550 mm high. Units to be placed outside of cubicles or for disposal of nappies and incontinence pads may be 100 mm taller.

^{D)} Clear space for water fountains vary depending on the direction and design of the water fountain's mouth piece/tap.

Table 1 (continued)

Appliance	Plan dimensions (mm)
Washing carousel	900 along the circumference of carousel per washstation × 800 deep
Water closet (WC) suite (low-level or close-coupled) ^{A)}	500 × 700
WC pan (back-to-wall or wall hung)	400 × 600
Bowl urinal	400 × 400
Bidet	400 × 650
Sink (domestic, inset single bowl)	450 × 450
Sink (bucket/cleaner's)	500 × 400
Washing machine	600 × 600
Dishwasher	600 × 600
Paper towel dispenser – simple ^{B)}	280 × 165
Paper towel dispenser – lever operated ^{B)}	330 × 235
Paper towel dispensers – electronic ^{B)}	340 × 250
Roller towel dispensers	420 × 280
Hands-under electric dryers	300 × 170
Hands-in electric dryers	330 × 230
Paper towel disposal bin	400 × 300
Sanitary towel disposal bin ^{C)} (in a cubicle)	540 × 210
Sanitary item disposal unit ^{C)} (not in a cubicle)	350 × 250
Baby changing fold-down unit short projection	770 × 600 (unfolded) 770 × 150 (folded)
Baby changing fold-down unit long projection	550 × 800 (unfolded) 550 × 150 (folded)
Drinking fountain ^{D)}	600 × 800
Water cooler	700 × 500

NOTE 1 Activity spaces are dimensioned as width × depth.

NOTE 2 All appliances can vary in size, in particular, baths, showers and wash basins.

^{A)} Dimensions include a traditional cistern of 500 mm width. Modern cisterns are generally 400 mm wide

^{B)} A paper towel bin is also needed.

^{C)} Bins within cubicles are generally less than 550 mm high. Units to be placed outside of cubicles or for disposal of nappies and incontinence pads may be 100 mm taller.

^{D)} Clear space for water fountains vary depending on the direction and design of the water fountain's mouth piece/tap.

5.2 Activity space

5.2.1 General

The spaces shown in all figures in this British Standard should be provided for each sanitary appliance.

NOTE 1 Examples of overlapping activity spaces are shown throughout this British Standard. The matrices in [Figure A.1](#) show the minimum spaces needed for various combinations of appliances.

Adjacent spaces should overlap only where simultaneous use of appliances is unlikely.

NOTE 2 Where arrangements other than those illustrated are required, combinations can be built up using the recommendations in this British Standard.

5.2.2 WC activity space

A clear floor space conforming to [Figure 2](#) should be provided in front of a WC, composting toilet or squatting pan. For visitable toilets in a dwelling, the depth of the activity space should be increased from 600 mm to 750 mm as shown in [Figure 3](#).

Normally, the activity space associated with the WC pan would be central; however, a small displacement is permissible, but a minimum clearance of 200 mm should be provided between the side of the pan and any wall or fitting.

In Northern Ireland, the width of the activity space for oblique access for a visitable toilet should be increased to 900 mm [see [Figure 3a](#)].

NOTE 1 Typically, the WC would be associated with a basin in the same room, but it can be in an immediately adjacent room.

NOTE 2 The use of a duct-mounted or high-level cistern allows the WC pan to be placed closer to the wall.

Figure 2 — WC activity space

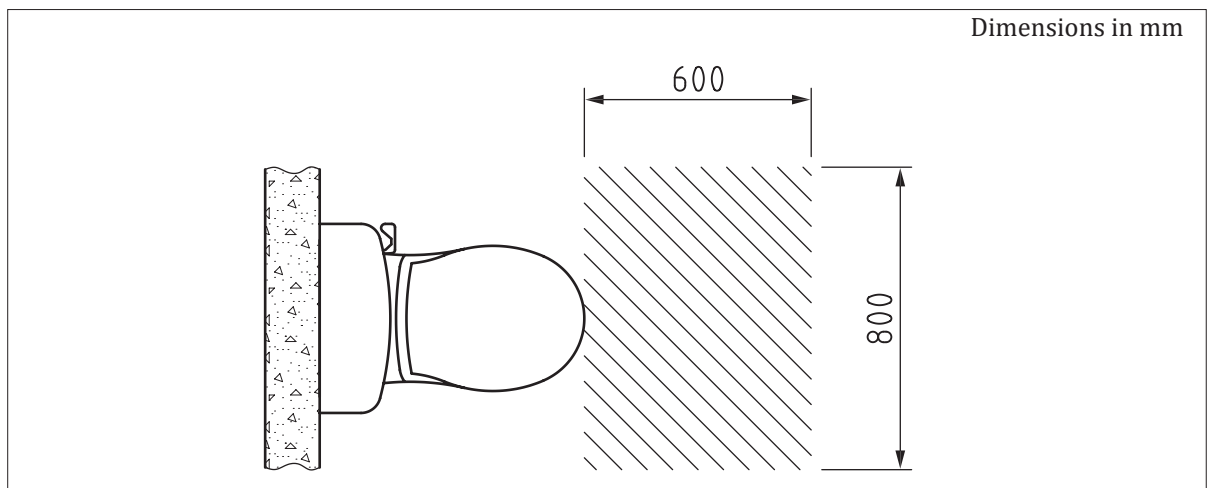
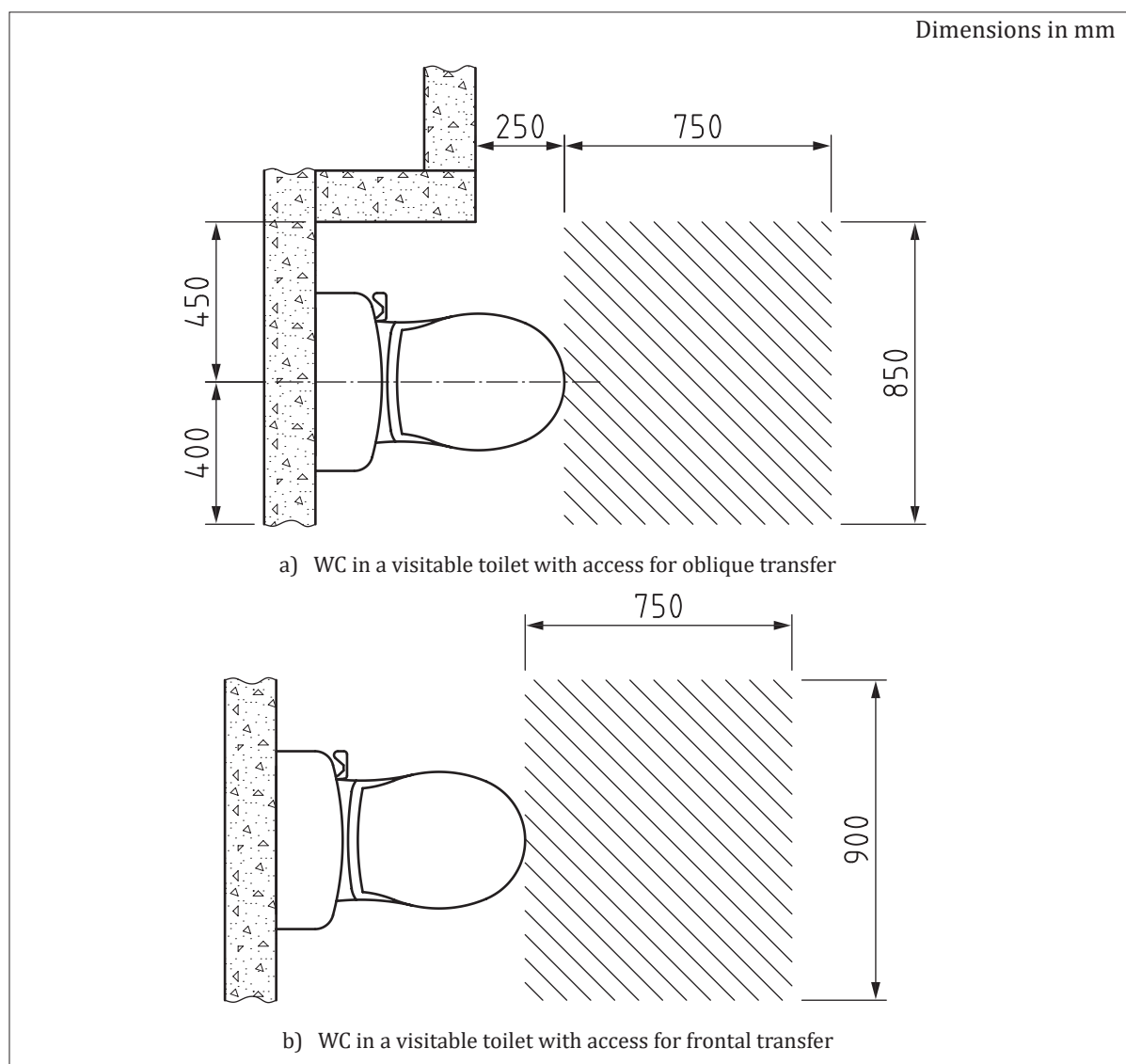


Figure 3 — *WC in a visitable toilet*

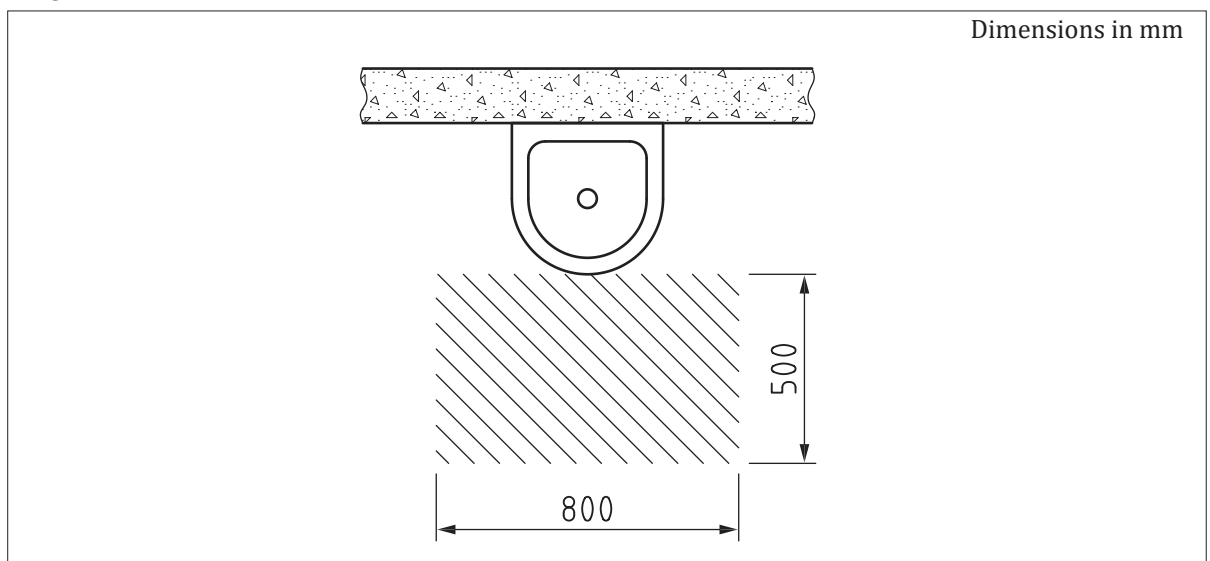
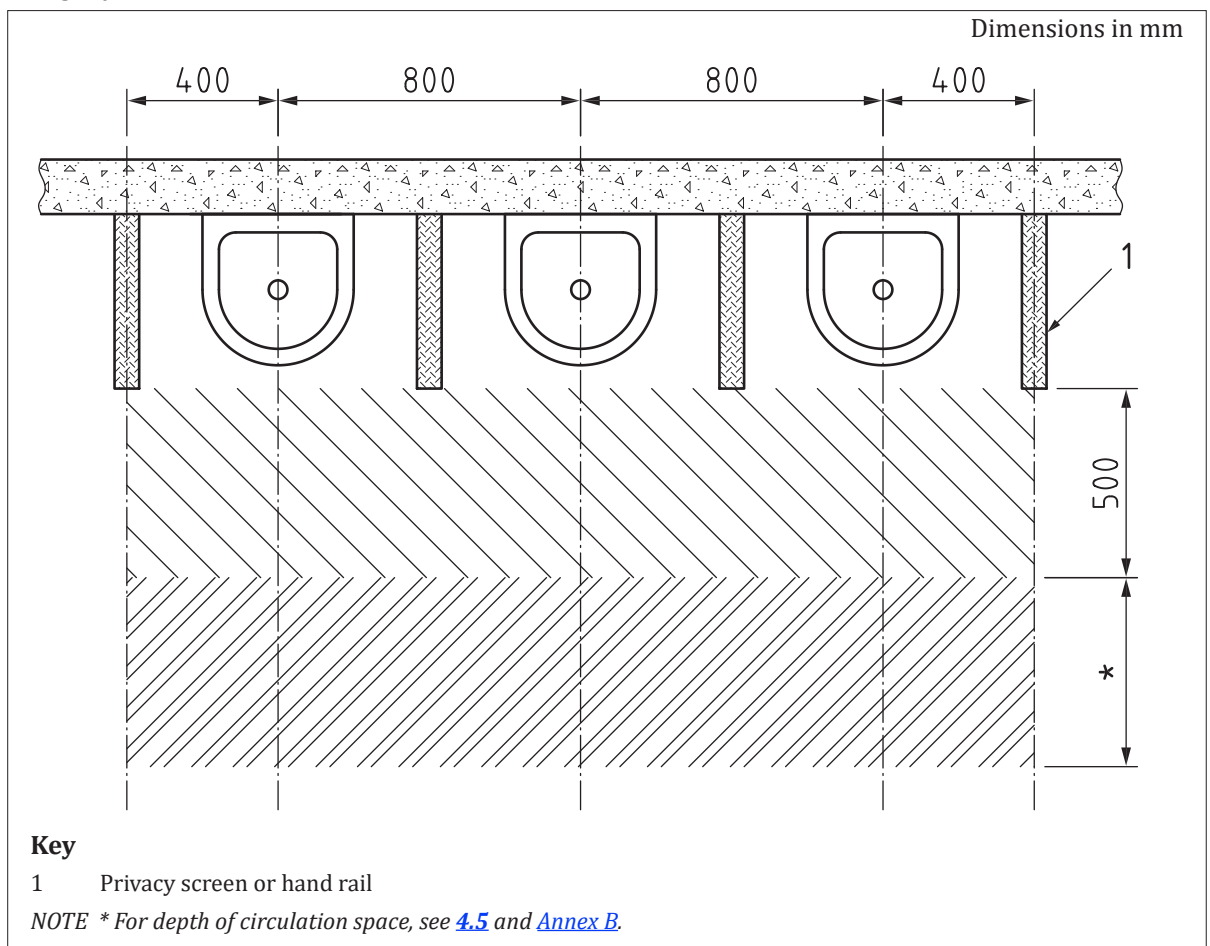
5.2.3 Urinal activity space

A clear floor space conforming to [Figure 4](#) should be provided in front of a single urinal.

A clear floor space conforming to [Figure 5](#) should be provided in front of a range of urinals (either slab, stall or individual bowls).

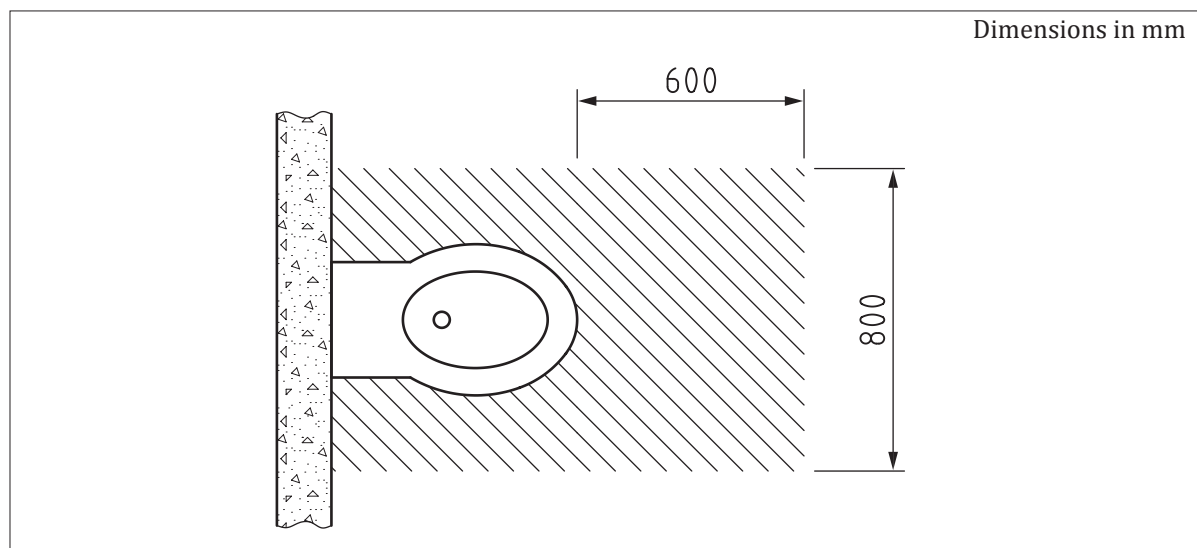
Where no guidance is available on the height of bowl urinals, a front-rim height of 500 mm should be provided. In a range of urinals, at least one should be at a lower level of between 200 mm to 380 mm.

Ambulant accessible urinals should conform to BS 8300.

Figure 4 — *Single urinal***Figure 5** — *Range of urinals*

5.2.4 Bidet activity space

A clear floor space conforming to [Figure 6](#) should be provided around a bidet.

Figure 6 — *Bidet*

5.2.5 Basin activity space

A clear floor space conforming to [Figure 7](#) should be provided in front of a hand-rinse or wash basin.

For a range of basins, the space should conform to [Figure 8](#) and at least one basin should be fitted at a lower level.

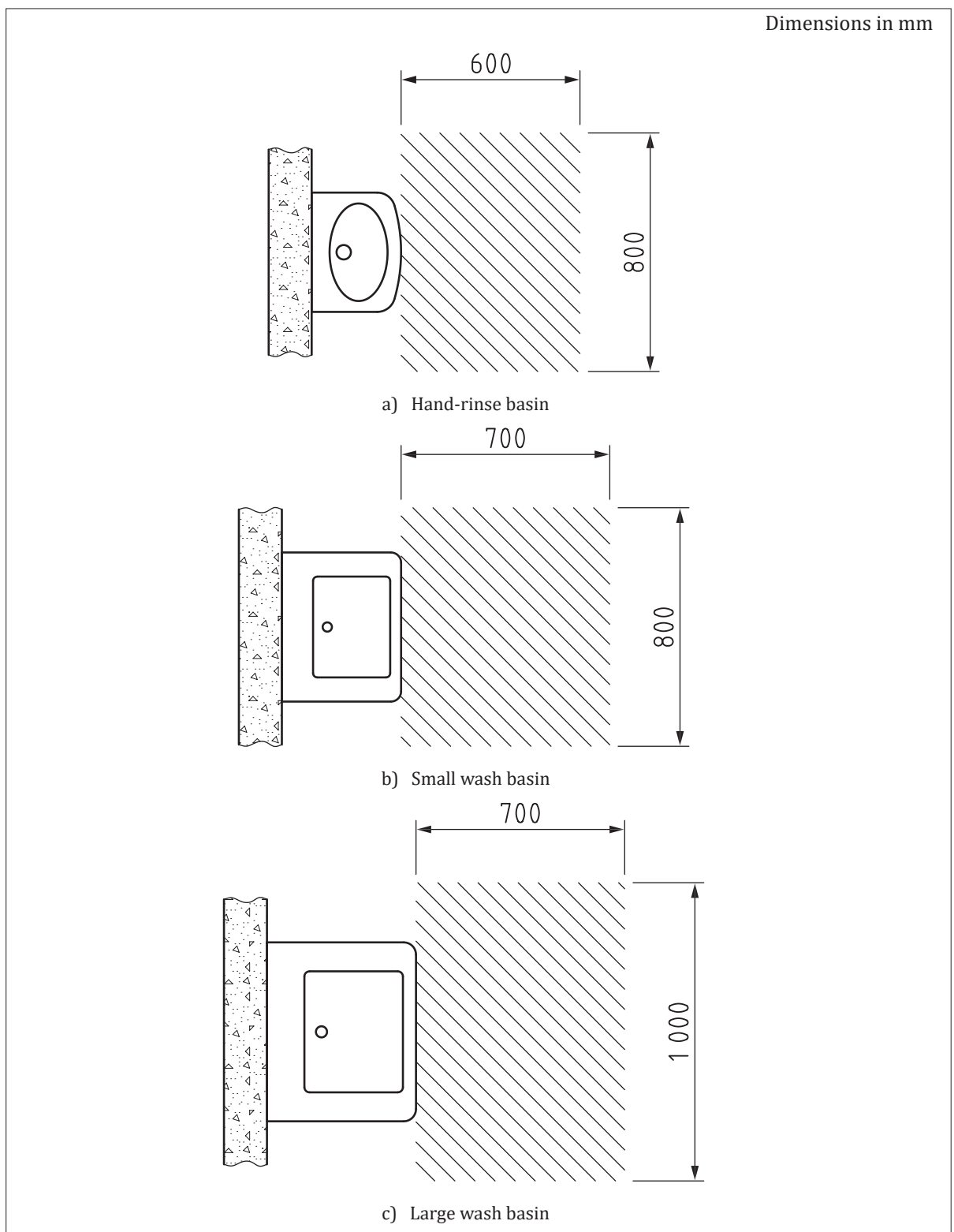
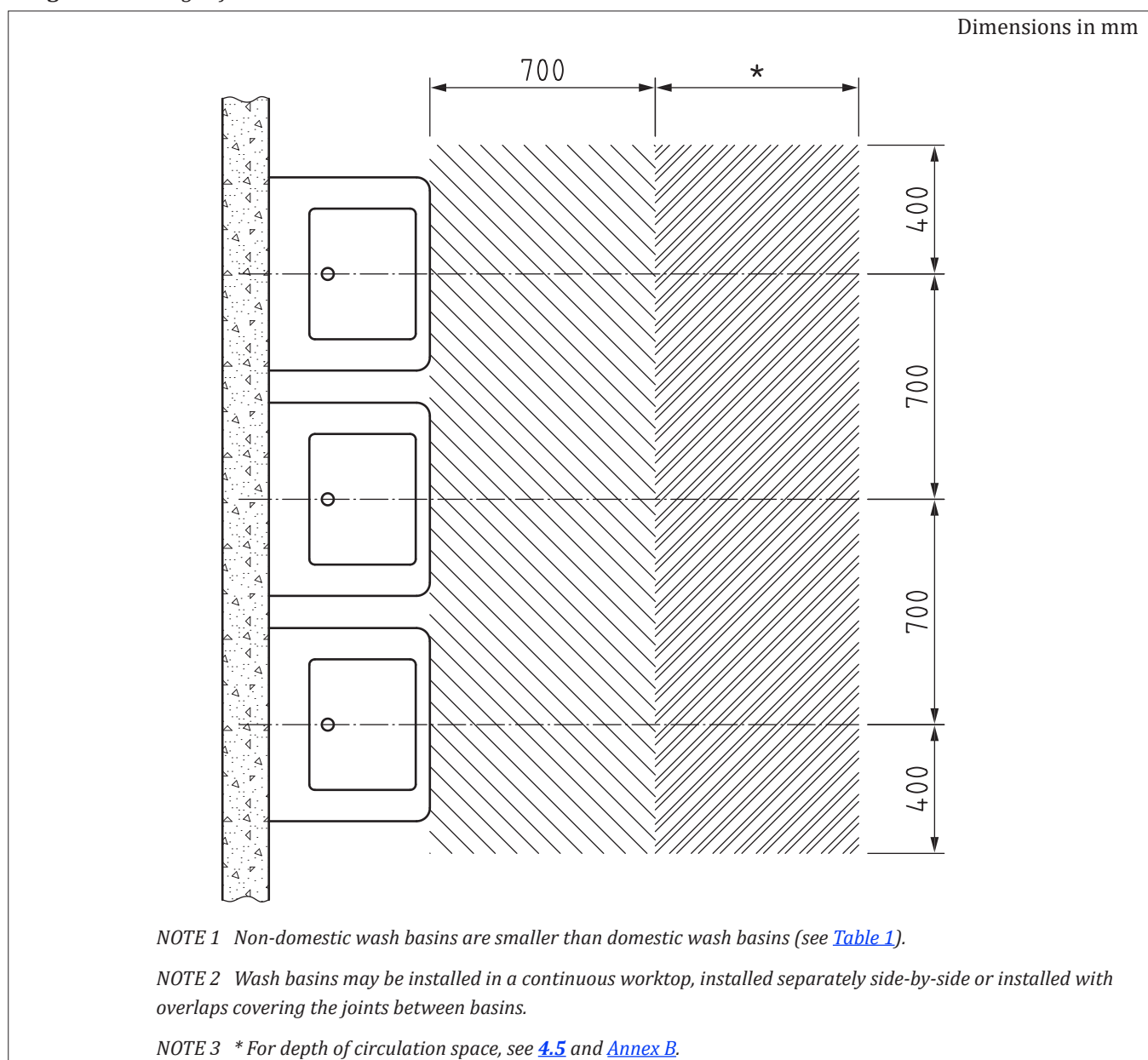
Figure 7 — *Basins*

Figure 8 — Range of wash basins

5.2.6 Hand-dryer/towel space

A clear floor space conforming to [Figure 9](#) should be provided for hand drying. The height of the hand drier/towels should enable people to dry their hands without over-stretching and should follow the manufacturer's installation instructions. Where manufacturers' instructions are unavailable, [Table 2](#) should be used.

Where paper towels are used, an associated disposal bin should be provided in a clear floor space conforming to [Figure 10](#).